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## United States Patent [19]

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[54]	SYSTEM FOR SYNCHRONIZATION
	BETWEEN MOVING PICTURE AND A TEXT-
	TO-SPEECH CONVERTER

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## [56] References Cited U.S. PATENT DOCUMENTS

5.500,919	3/1996	Luther	704/260
5,630,017	5/1997	Gasper et al	704/276
5,657,426	8/1997	Waters et al	704/276
5,677,739	10/1997	Kirkland	348/468
5,689,618	11/1997	Gasper et al	704/276

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[57] ABSTRACT

A method of formatting and normalizing continuous lip motions to events in a moving picture besides text in a Text-To-Speech converter is provided. A synthesized speech is synchronized with a moving picture by using the method wherein the real speech data and the shape of a lip in the moving picture are analyzed, and information on the estimated lip shape and text information are directly used in generating the synthesized speech.

## 4 Claims, 3 Drawing Sheets

